



Cisco

C1-N7702-S2E-AC

Datasheet



Product Overview

- Cisco Nexus 7000 Series Switches form the core of the Cisco Unified Fabric, bringing advanced networking to data centers.
- Designed for mission-critical data centers, cloud, and large enterprises, these switches serve organizations needing nonstop operations.
- With up to 83 Tbps total switching capacity, they support 768 × 10G, 384 × 40G, or 192 × 100G Ethernet ports, meeting high-scale demands.
- The 7700 Series delivers consistent operations with existing Nexus 7000 models, sharing system architecture and ASIC technology.
- Simplified deployment and management with NX-OS software provide smooth upgrades and predictable performance.
- This platform brings high availability, scalability, and flexibility to data centers, supporting evolving business needs efficiently.

Product Highlights

- **Compact 3RU High-Density Design:** Up to 48 × 1G/10G, 24 × 40G, or 12 × 100G Ethernet ports offer flexible connectivity for small campus or data center deployments.
- **Dedicated and Efficient Supervision:** Equipped with one half-slot supervisor module, ensuring reliable and stable switch operations.
- **Line-Rate Module Support:** No fabric modules needed; supports all present and future Nexus 7700 modules at full switching capacity.
- **Optimized Cooling and Management:** Front-to-back airflow with automatic variable-speed fans and optional NEBS-compliant air filter enhance reliability and efficiency.

Detailed Features



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Component	Specification
Rack Space	3RU
Slot Configuration	1 supervisor + 1 I/O module
Fabric Module Support	Not included
Power Supply Slots	2



Modular Design for Diverse Deployments

The Cisco Nexus 7000 Series offers multiple chassis options 18-slot, 10-slot, 9-slot, and 4-slot each engineered for optimal cable management, airflow, and scalability. This modular approach allows organizations to select the ideal chassis for their data center or campus needs.

Passive Mid-Plane Architecture

All chassis utilize a passive mid-plane, directly interconnecting fabric modules and I/O modules to boost data transfer. Intermodule switching happens via crossbar fabric ASICs, ensuring high-speed, low-latency operations and simplified internal connectivity.

High-Capacity, Distributed Fabric

A scalable fabric architecture provides up to five fabric modules in select chassis, enabling each slot to deliver up to 550 Gbps. The systems base capacity scales to 18.7 Tbps, supporting even the most bandwidth-intensive environments.

Flexible Technology Upgrades

The Nexus Series allows for seamless technology evolution. With midplane or backplane support for fabric and line card upgrades, customers gain sustained investment protection and the flexibility to adapt to future requirements with minimal disruption.

Energy-Efficient Power Solutions

Nexus 7000 Series switches use power supplies rated up to 90% efficiency, reducing energy consumption and heat output. This helps lower operational costs and supports sustainability in large-scale facilities.

Adaptive Cooling Architecture

Fan modules automatically adjust speeds based on thermal load, lowering power usage when conditions permit. In 9-slot chassis models, selective fan shutdown further saves energy without compromising performance or reliability.

Integrated System Consolidation

High density, performance, virtualization, and resilient design allow users to consolidate networks minimizing hardware, streamlining cable management, and enhancing power efficiency for cost-effective operation.

Advanced Hardware Reliability

Each chassis is built for nonstop operation, featuring redundant hot-swappable power, fans, and modules, ensuring high network availability and service continuity for mission-critical deployments.

Technical Specifications

Product Specifications

Feature	Value
Chassis Type	2-Slot Modular Switch (Nexus 7702)
Supervisor Modules	2 × SUP2E (Active/Standby)
Fabric Modules	Not Supported
Power Supplies	AC Power Supply (Not Included in Base Chassis)
Rack Units	3RU
10G Ports	48
40G Ports	24
100G Ports	12
System Forwarding Capacity	No Fabric Modules (All I/O Modules Operate at Line Rate)
Max Local Switching Capacity	2.4 Tbps
Dimensions (H × W × D)	5.15 × 17.3 × 29.1 in. (13.08 × 43.9 × 73.9 cm)
Chassis Depth (with Cable Management)	35.1 in. (89.15 cm)



Feature	Value
Fan Tray Weight	13.5 lb (6.1 kg)
Operating Temperature	32 to 104°F (0 to 40°C)
Humidity	5 to 90% Noncondensing
Altitude	-500 to 13,123 ft. (Certified 0–6,500 ft.)
Heat Dissipation	Max 6,650 BTU/hr (Configuration-Dependent)
Minimum NX-OS Version	7.2 or Later
Network Management	Cisco DCNM
CLI/API Support	XML, Python, TCL, OpenFlow Support
Hot-Swap Components	Power Supplies, Fan Trays
MIB Support	SNMPv3, v2c, v1
Certifications	FCC Part 15, UL, CE, NEBS Level 3 (Validation in Progress)
Options	Lockable Front Module Doors, Door Air Filter, Power Supply Center Cable Management

Product Comparison

Feature	C1-N7702-S2E-AC	C9300-48U-A	C1-N9K-C9508-B3-E
Chassis Type	2-Slot Modular Chassis	Fixed Switch	8-Slot Modular Chassis
10G Ports	48	4	Up to 192
40G Ports	24	None	Up to 64
100G Ports	12	None	Up to 32
Switching Capacity	2.4 Tbps	208 Gbps	Up to 172 Tbps
Redundant Power	Supported	Supported	Supported
Hot Swap Modules	Supervisor, I/O, Fan, PSU	PSU, Fan	All modules
Airflow	Front-to-back	Front-to-back	Front-to-back
Network OS	NX-OS	IOS XE	NX-OS
Typical Deployment	Enterprise Core/Data Center	Enterprise Access	Large Data Center/Core



Accessories

Category	Accessories
Included Accessories	- Power Supply Slot Covers - Basic Mounting Kit - Documentation Set
Optional Accessories	- Air Filter Kit - Lockable Front Module Door - Enhanced Supervisor Module



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References

[1] Cisco Systems. (2024). Cisco Nexus 7000 Series Switches Data Sheet. Retrieved from https://www.cisco.com/c/en/us/products/collateral/switches/nexus-7000-series-switches/data_sheet_c78-728187.html